

American River Basin: Upper Unionhouse Creek Flood Protection Project

Attachment 6: Monitoring, Assessment and Performance Measures

Overview

Presented in this attachment are draft monitoring, assessment and performance measures for the Upper Unionhouse Creek Flood Protection Project, one of three projects that comprise the American River Basin (ARB) Integrated Regional Water Management (IRWM) Proposition (Prop) 1E Stormwater Flood Management Grant set of proposals. The Project Performance Measures table included herein presents the following project-specific information:

- Project goals
- Desired outcomes
- Output indicators – measures to effectively track output
- Outcome indicators – measures to evaluate change that is a direct result of the work
- Measurement tools and methods
- Measurable targets that are feasible to meet during the life of the Proposal

The Project Performance Measures presented below will be used to develop a Project Performance Monitoring Plan, as described in the Work Plan (Attachment 3 of this Proposal), that includes monitoring criteria and an implementation schedule for the Upper Unionhouse Creek Flood Protection Project. This plan will be established and administered to assess and evaluate the project's performance and as a tool for reporting on its implementation. The cost for preparing the Project Performance Monitoring Plan is included in each project budget, in Row (g) Other Costs. The implementation of the Project Performance Monitoring Plan will be conducted under Row (e) Environmental Compliance/Mitigation/Enhancement.

In compliance with the four Groundwater Management Plans for the region, the ARB IRWMP participants have an extensive groundwater monitoring network for monitoring water elevation and quality, and to a lesser extent, land subsidence. These monitoring activities help the ARB region maintain the quantity and quality of the groundwater through meeting pre-determined Basin Management Objectives (BMOs). Any groundwater data collected as part of this project will be incorporated into the data collection and analysis currently underway. Additionally, at the State level, data will be disseminated to the Surface Water Ambient Monitoring Program (SWAMP) and the new California Statewide Groundwater Elevation Monitoring (CASGEM) Program, as applicable. Data also will be disseminated to California Department of Water Resources (DWR) for inclusion in its databases such as the Water Data Library, which contains groundwater level and water quality data.

Project Summary

Unionhouse Creek is a tributary to Morrison Creek in the southern part of the City of Sacramento and in unincorporated Sacramento County. This creek floods out of bank in 100-year and more frequent storms; an estimated 300 homes are in the 100-year floodplain. The proposed Upper Unionhouse Creek Flood Protection Project seeks to keep 100-year flood flows within the channel from the confluence of Unionhouse and Strawberry Creeks, downstream to Franklin Boulevard where the federal South Sacramento Streams Group (SSSG) project, referred to as the Federal Project, will commence. The project will remove 250-300 homes from the floodplain, relieving the homeowners of the burden of costly flood insurance, and would enable this reach to be removed from the Federal Project, keeping it out of the State Plan of Flood Control and avoiding state liability for its maintenance. The project will solve flooding issues in the project reach at a lower cost than could be achieved with the Federal Project, and removing this reach from the Federal Project will leverage other federal, state and local funds for underfunded flood protection improvements elsewhere in the Morrison Creek watershed.

The Upper Unionhouse Creek Flood Protection Project will widen the channel of Unionhouse Creek between Strawberry Creek and Franklin Boulevard. The channel widening will allow for the containment of 100-year flows in this reach of the Creek.

Project Performance Measures Table

A Project Performance Measures table has been created for the Upper Unionhouse Creek Flood Protection Project to indicate the project goals, desired outcomes, output indicators, outcome indicators, measurement tools and methods and targets (Table 1). This table will be updated prior to project implementation and will be used to assess and evaluate the implementation and performance of the project, and as a means of reporting on the project's achievements relative to its overall goals.

Some of the monitoring measures that will be conducted as part of the project performance monitoring program include reviewing ALERT stage gage recordings to compare pre- and post-implementation data. These measures will help evaluate the output indicators and outcome indicators to ultimately determine to what extent the project is meeting its goals and desired outcomes.

Table 1: Upper Unionhouse Creek Flood Protection Project Performance Measures Table

Project Goals	<ul style="list-style-type: none"> - Provide regional flood control benefits to critically impacted areas of southern Sacramento City and County - Reduce the potential of the creek bank overtopping
Desired Outcomes	<ul style="list-style-type: none"> - Widen creek bed - Provide peak flood flow reduction within the Morrison Creek Watershed
Output Indicators	<ul style="list-style-type: none"> - Field inspection records for channel changes/modifications - Flood control stage monitoring
Outcome Indicators	<ul style="list-style-type: none"> - Creek length (in feet) with increase in channel width - Change in peak creek stage (feet) during flood events/flood stage monitoring
Measurement Tools and Methods	<p>Tool - field records Method - compare creek width before and after the project</p> <p>Tool - ALERT stage gage recordings Method - data collected automatically during flood events; comparison of pre- and post-construction data to demonstrate peak flow reduction</p>
Targets	<ul style="list-style-type: none"> - Containment of 100-year flood flows within the banks of Unionhouse Creek, within the project reach